United States Air Force

Integrity - Service - Excellence

Clean Air Act Operational Impacts

Environmental Training Symposium

8-12 Mar 04

Nashville, TN

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Presenters

Air Quality Manager
ACC/CEVQ
Langley AFB, VA

Staff Judge Advocate
HQ AFCEE/JA
Brooks City-Base, TX

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Objectives

- **Provide overview/update of CAA issues affecting Air Force (AF) Facilities**
- **Enhance ability of practitioners to comply with CAA requirements while minimizing AF Mission Impact**

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Overview

- What is the CAA?
- Compliance Requirements
- Stationary and Mobile Sources
- Title V Permits
- Inspection & Maintenance Program
- Enforcement
- DoD CAA Initiatives
- Summary

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What Is the CAA?

- Clean Air Act 42 United States Code (U.S.C.) §§ 7401-7671
  - Implemented by each state as individual laws
- 40 Code of Federal Regulation (CFR) Parts 50-100
  - State and Local Implementing Regulations
  - Local authority: California (Air Districts) and several other states
- AFPD 32-70 Environmental Quality
  - AFI 32-7040 Air Quality Compliance

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Compliance Requirements

- The CAA consists of 6 sub-chapters
  - I – Air Pollution Prevention and Control
  - II – Emission Standards for Moving Sources
  - III – General (Definitions and Enforcement)
  - IV – Acid Rain Control
  - V – Permits
  - VI – Stratospheric Ozone Protection

Compliance

- **CAA Title I**
  - **Air quality control measures**
  - **National Ambient Air Quality Standards (NAAQS)**
  - **Risk Management Plans**
  - **New Source review (NSR)**
  - **New Source Performance Standards (NSPS)**
- **CAA Title III**
  - **Hazardous Air Pollutants Requirements (HAPS)**
  - **MACT Hammer**
  - **Asbestos**

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Compliance Requirements
Air Quality Control Measures

- **Regulatory Schemes of CAA**
  - **Health-based Standards**
    - **Regulates unhealthy levels of criteria pollutants**
    - **CAA requires EPA to establish National Ambient Air Quality Standards (NAAQS)**
  - **Technology-based Standards**
    - **Regulates unhealthy levels of hazardous air pollutants (HAP)**
    - **CAA requires EPA to establish National Emissions Standards for Hazardous Air Pollutant (NESHAP) Source Categories**
    - **CAA requires EPA limit emissions based on the best controlled sources in that industry**
    - **All similar sources must achieve this standard which is deemed the Maximum Achievable Control Technology (MACT)**

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Compliance Requirements
National Ambient Air Quality Standards

- NAAQS regulates six criteria pollutants
  - Ozone, sulfur dioxide, lead, nitrogen dioxide, particulate matter less than 10 microns in size and carbon monoxide
  - O_3, SO_2, Pb, NO_2, PM_{10} & CO
- Environmental Protection Agency (EPA) promulgates federal regulations, then states impose their own regulations
- AF facilities must comply with state regulations implemented by the states

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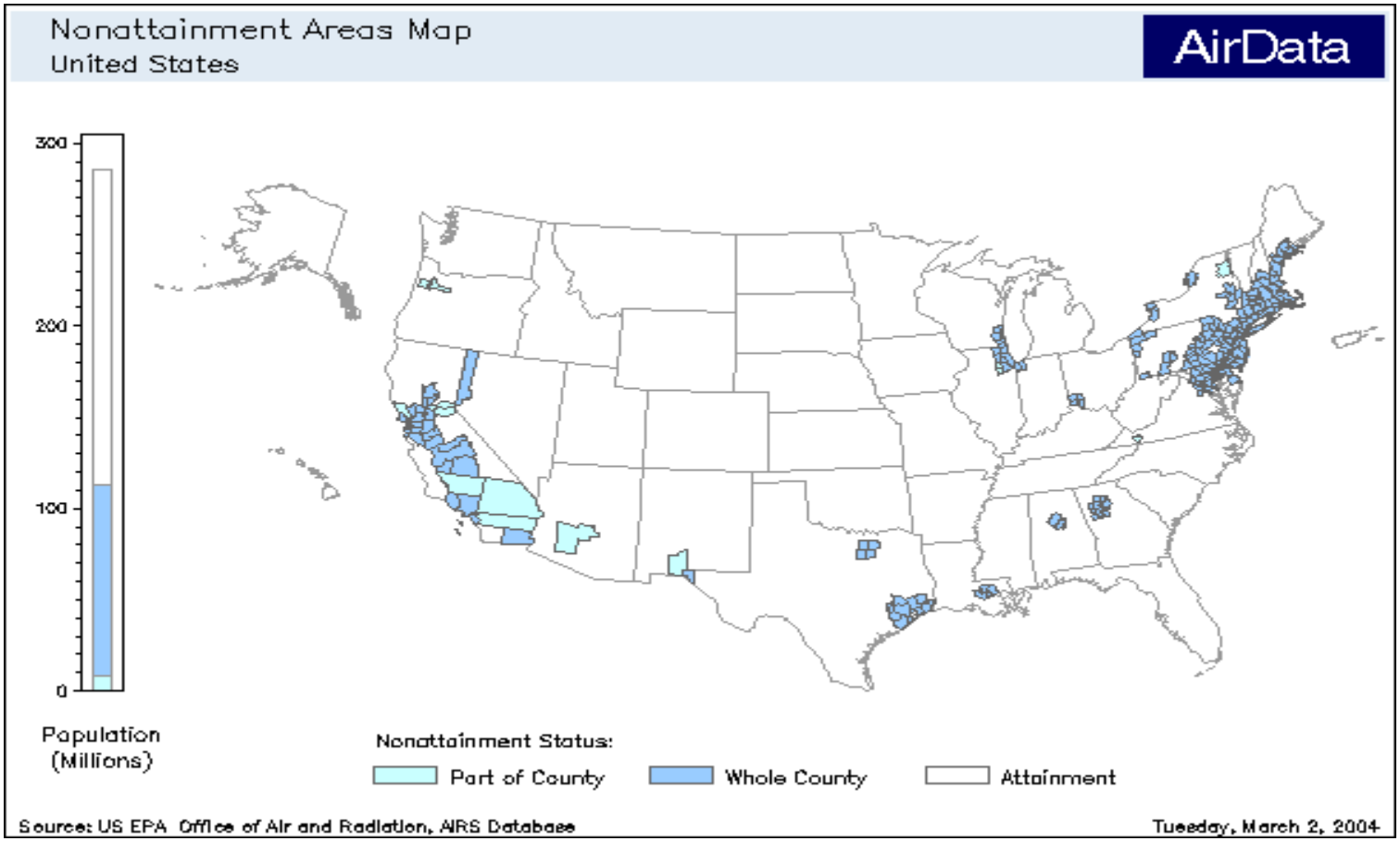
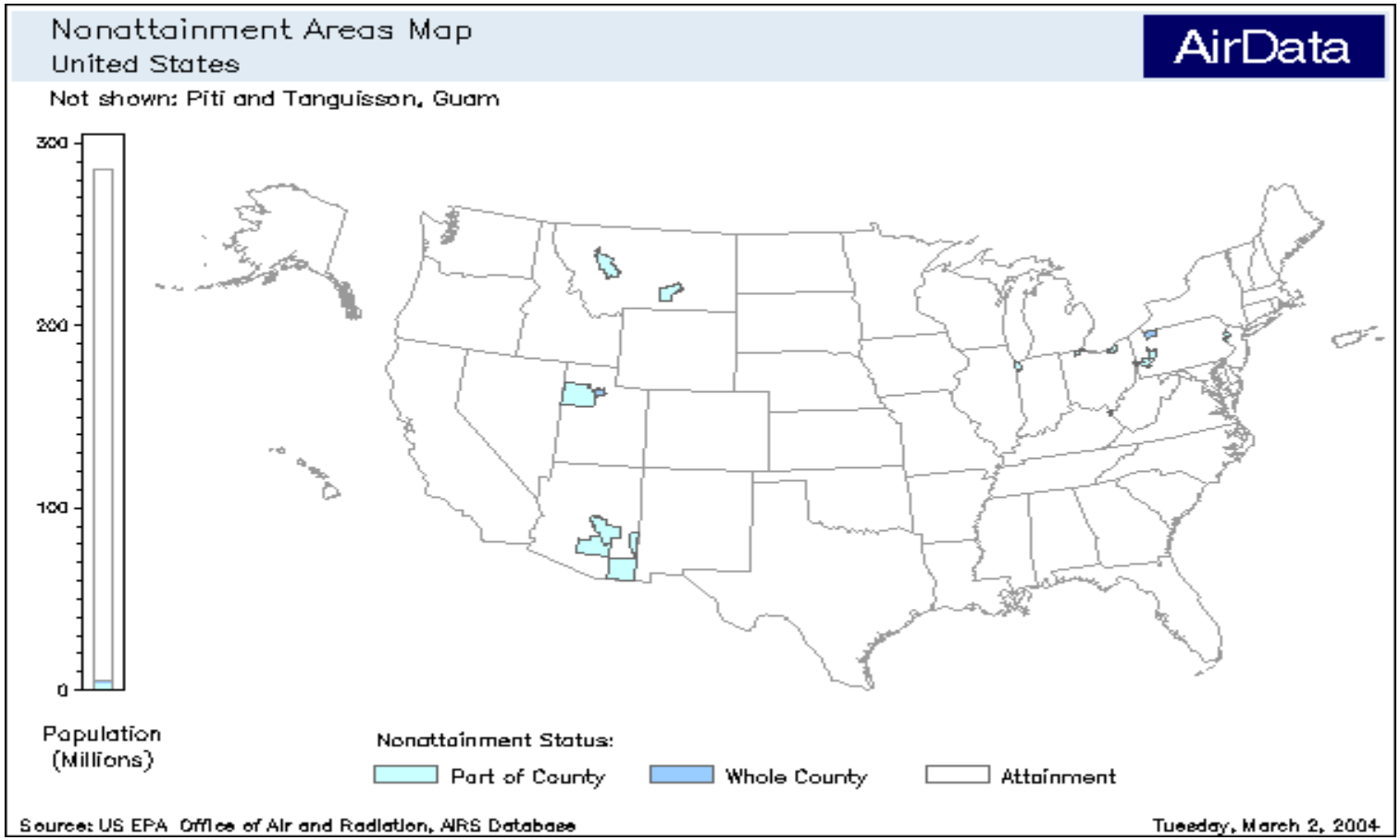
Ozone Nonattainment Areas



SO_2 Nonattainment Areas



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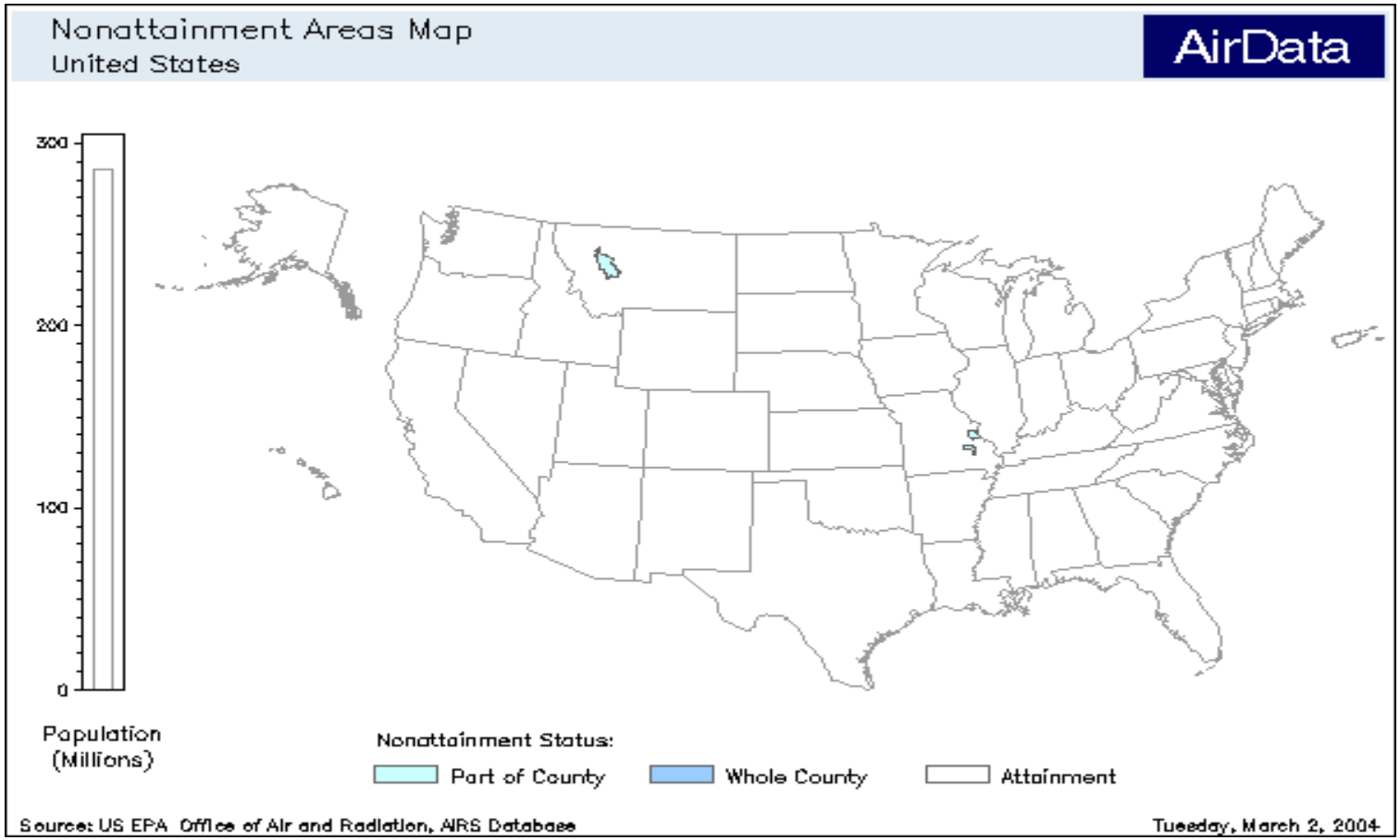
Lead (Pb) Nonattainment Areas



PM_{10} Nonattainment Areas

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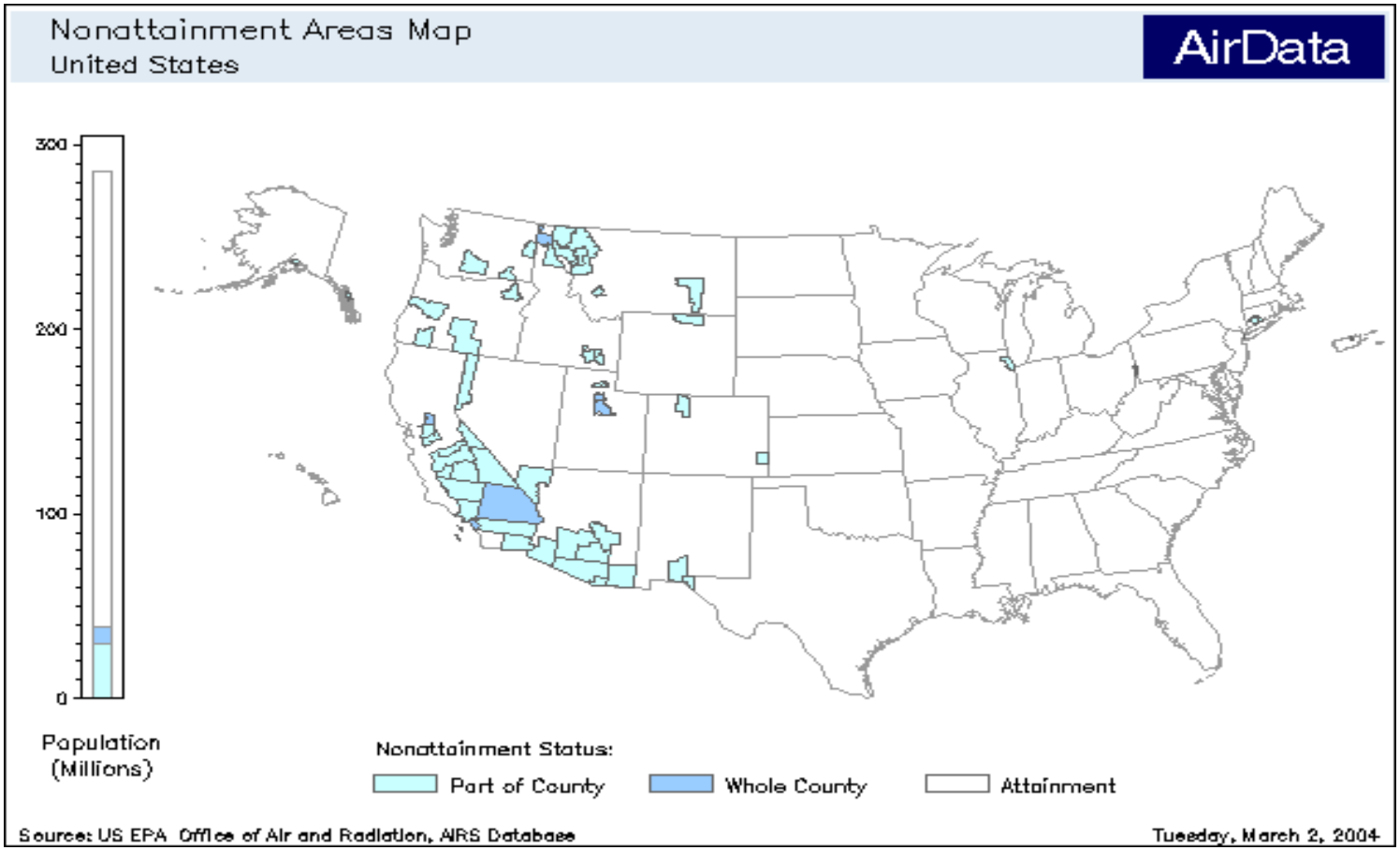

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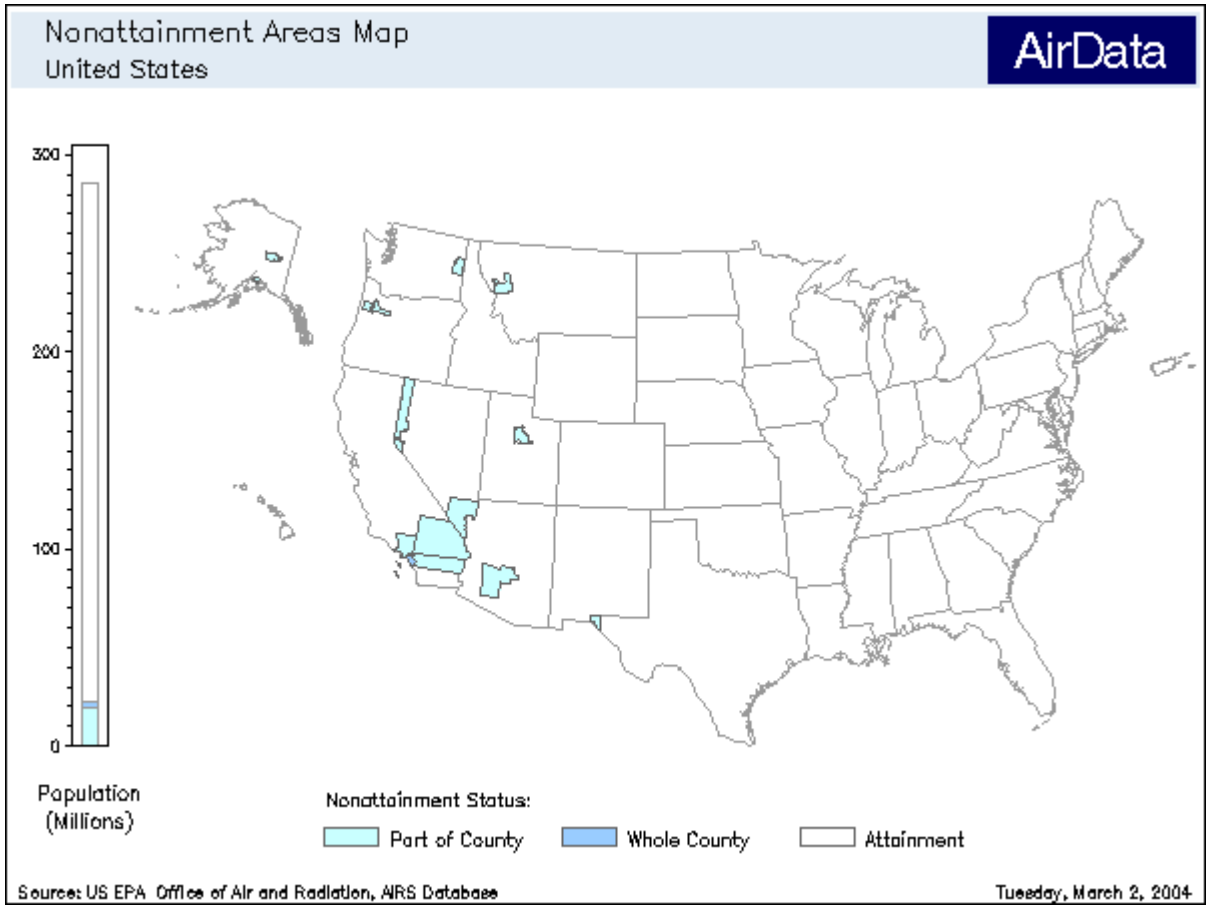
CO Nonattainment Areas



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1997 NAAQS Proposals

- EPA Changed O_3 & PM standard in 1997
  - Ozone: 8-hour average
  - PM 2.5
- Supreme Court ruled in February 2001
  - EPA may set ozone standards without regard to cost
  - EPA may set new standards
  - Remanded 1997 standards for consistency with 1990 CAA Amendments

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1997 NAAQS Proposals

- **NAAQS: PM 2.5**
  - **3 Years of data (1999-2001) collected**
  - **PM 2.5 PROJECTED IMPLEMENTATION TIMELINE:**
    - **Summer ‘03 publication of proposed rule**
    - **Sept ‘03 States/Tribes recommend N/A areas**
    - **Summer ‘04 EPA finalizes implementation rule**
    - **December ‘04 EPA designates N/A areas**
    - **December ‘07: States/Tribes Submit Implementation Plans**
    - **December ‘09: Attain Standards w/in 5 years**

1997 NAAQS Proposals

- **Ozone: 8-hour average**
  - **13 Nov '02 EPA sued by 9 NGOs for failure to designate areas for the 8-hour Ozone NAAQS**
    - **Consent Decree provides that EPA will publish notice of such designations by 15 April '04** (67 FR 70070-71, 20 Nov '02))
    - **States & Tribes asked to submit their designations by 15 July '03**
  - **EPA says it will publish its Implementation Rule in early 2003** (68 FR 613-645, 6 Jan '03) **w/ Final Rule by Dec '03**
  - **Appears that 8-hour Ozone area designations and SIP development will parallel the PM 2.5 process**

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1997 NAAQS Proposals

- Impacts
  - More non-attainment areas
  - More stringent SIPs
  - Conformity
- Rule Development Continues
- Nonattainment areas proposed in 2003

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Compliance Requirements
Hazardous Air Pollutants

- 188 Regulated Hazardous Air Pollutants (HAPS)
- National Emission Standards for HAPS (NESHAPS) apply by Standard Industrial Classification (SIC)
- Applies to Major Sources
  - Potential to Emit (PTE) 10 tons per year (TPY) of any one HAP or 25 TPY of any combination of HAPS
- Aerospace NESHAP applies to some AF Facilities (Depots) 40 CFR 63 Subpart GG
- Control Technique Guidelines (CTG) also apply

Compliance Requirements
Hazardous Air Pollutants

NESHAP = Maximum Achievable Control Technology Standards (MACT)

Standards in effect today

- **Aerospace Industry**
- **Degreasing Organic Cleaners (Halogenated Solvent Cleaning)**
- **Gasoline Distribution Stage I**
- **Medical Waste Incinerators**
- **Publicly Owned Treatment Works (POTW)**

This list does not contain all standards. For more information see www.epa.gov/ttn/atw/eparules.html

Compliance Requirements
Hazardous Air Pollutants

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NESHAPS – planned promulgation 2003

- **Engine Test Cell/Stands 2/28/2003**
- **Landfills (all sources): estimated compliance date NOV 2003**
- **Site Remediation 8/31/2003**
- **Miscellaneous Metal Parts (Surface Coating) 8/31/2003**
- **Stationary Combustion Turbines 8/31/2003**
- **Internal Combustion Engines 2/28/04**
- **Industrial/Commercial Boilers 2/28/04**

This list does not contain all standards. For more information see www.epa.gov/ttn/atw/eparules.html

Compliance Requirements
MACT HAMMER

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MACTS require standards be issued within 18 months after scheduled date

IF NOT,

MACT HAMMER

- **Sources in those categories mus submit a Title V permit application to the permitting authority**
- **Permitting authority will determine case-by-case MACT and issue Title V permit**
- **HAMMER date for 10 year rules: 15 May 2002**

Compliance Requirements
MACT Hammer

23 MAR 2001 EPA proposed

- **2-Part application**
  1. **Source must submit notification on 15 MAY 2002, or 30 days after notification by permitting authority**
  2. **15 NOV 2002 more detailed information due**
- **Title V permit issued by 15 MAY 2004**
- **But, . . .**

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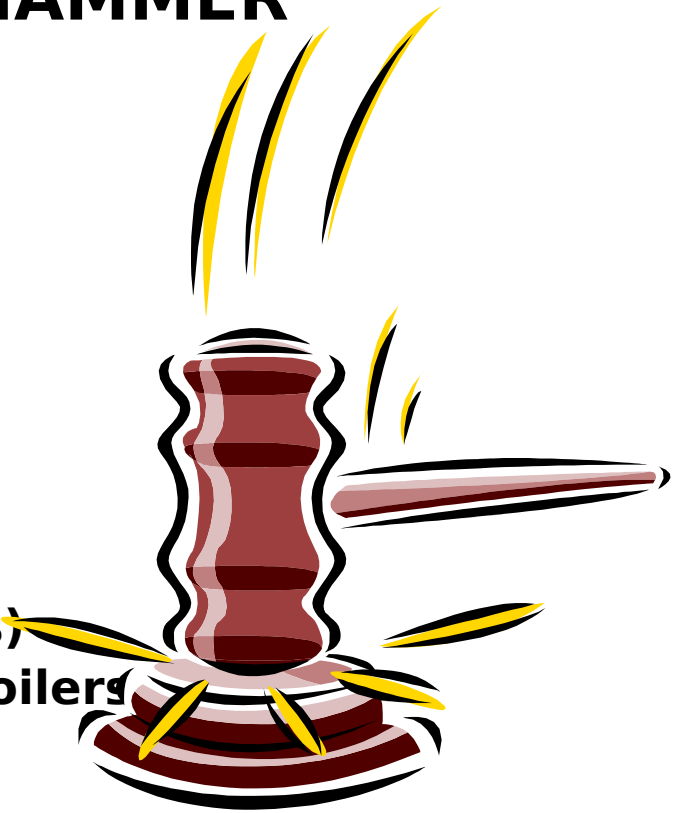
Compliance Requirements
MACT Hammer

- **NEW PROPOSED SETTLEMENT, (**67 Fed. Reg. 72875 (December 9, 2002)**:**
  - **Divides Source Categories into several additional "Bins" due by:**
    - **Feb '03; Aug '03; Feb '04; & June '05**
    - **If EPA misses a Bin deadline, affected source categories have 60 days to get in their detailed Part II case-by-case permit modification**
    - **EPA says they can do it, and they'll give advance warning to affected sources if they run into trouble**
  - **45 MACT Rules have been issued a/o March 2004**

Compliance Requirements
MACT Hammer

MACTS in Peril of HAMMER

- Plastic Parts
- Site Remediation
- Combustion Turbines
- Engine Test Cells/Stands
- Semiconductor Production
- Miscellaneous Metal Parts
- Internal Combustion Engines
- Reinforced Plastic Composites
- Municipal Solid Waste Landfills
- Organic Liquids Distribution (non-gas)
- Industrial/Commercial/Institutional Boilers



NOTE: This list is not all inclusive.

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Compliance Requirements
Asbestos Compliance Issues

- Delegated to states in many cases
- AFI 32-1052 governs asbestos management at AF installations
  - Applies to buildings that are being demolished or renovated and have RACM
  - Notification, containment, wetting & disposal requirements attach

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Compliance Requirements
Asbestos Compliance Issues

- **Potential Pitfalls**
  - **Self-help projects**
  - **Locally contracted (O&M) funded building modifications**
  - **Criminal Prosecution for egregious cases**

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Compliance Requirements
Risk Management Plans

- Accidental Release Prevention
- Chlorine most common Risk Management Plan (RMP) substance for Air Force - 4 bases
- Initial RMP submittal deadline: 21 Jun 1999 - Update every 5 years
- Increased pressure from regulators to maintain RMP for General Duty Clause
- New: Not propane fuel!

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Compliance Requirements
New Source Review

- New Source Review Dependent Upon Area Attainment Status
  - Prevention of Significant Deterioration (PSD) for Attainment Areas – CAA Title I Part C
  - NSR for Non Attainment Areas – CAA Title 1 Part D
- Goals
  - Ensure new sources do not significantly degrade air quality
  - Ensure source emissions are consistent with SIPs
  - Establish control technology requirements to minimize negative impacts on air quality
- EPA Proposed Revisions to NSR Programs 22 Nov 02
  - Increase energy efficiency and encourage emissions reductions
  - Offers industrial facilities greater flexibility to improve and modernize operations

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Compliance Requirements
New Source Review (cont'd)

- **PSD Determination**
  - **Assess local area attainment**
  - **Identify Major or Minor Source**
    - **Major Source – Significant Increase**
    - **Minor Source – Increase over 100/250 TPY**
  - **Request federally-enforceable limits to reduce level**
  - **Best Available Control Technology (BACT) analysis must be completed and installed if permit required**
    - **Expect up to 2 years for final permit**
- **NSR for NAA**
  - **Attempt to reduce net emissions below thresholds**
  - **Lowest Achievable Emission Rate (LAER) required if permit applicable**
    - **Requires Offsets – must have greater decrease from existing sources in area**

For more information see: www.epa.gov/nsr

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Compliance Requirements
New Source Performance Standards

- **Regulates emissions of six criteria pollutant and several non-criteria pollutants from "affected" facility – 40 CFR 60**
  - **"Affected" means construction, reconstruction, or modification begins after standard promulgated**
  - **75 total NSPS for specific emission units**

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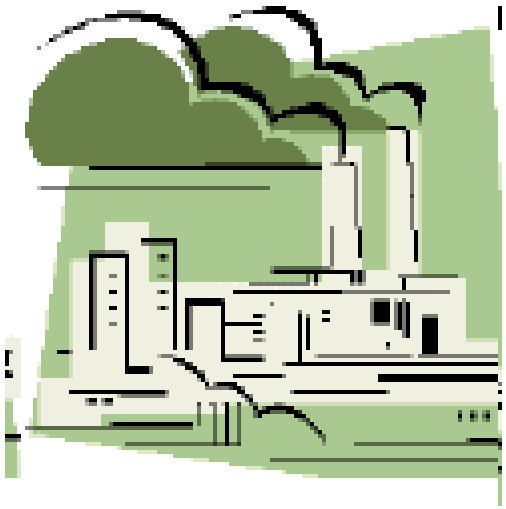
Stationary and Mobile Sources

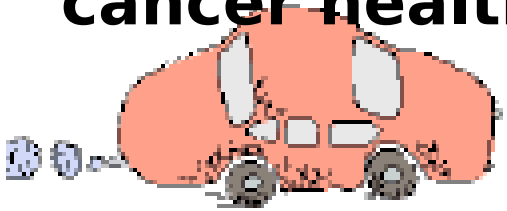
- **Urban Air Toxics**
- **Conformity**

Urban Air Toxics

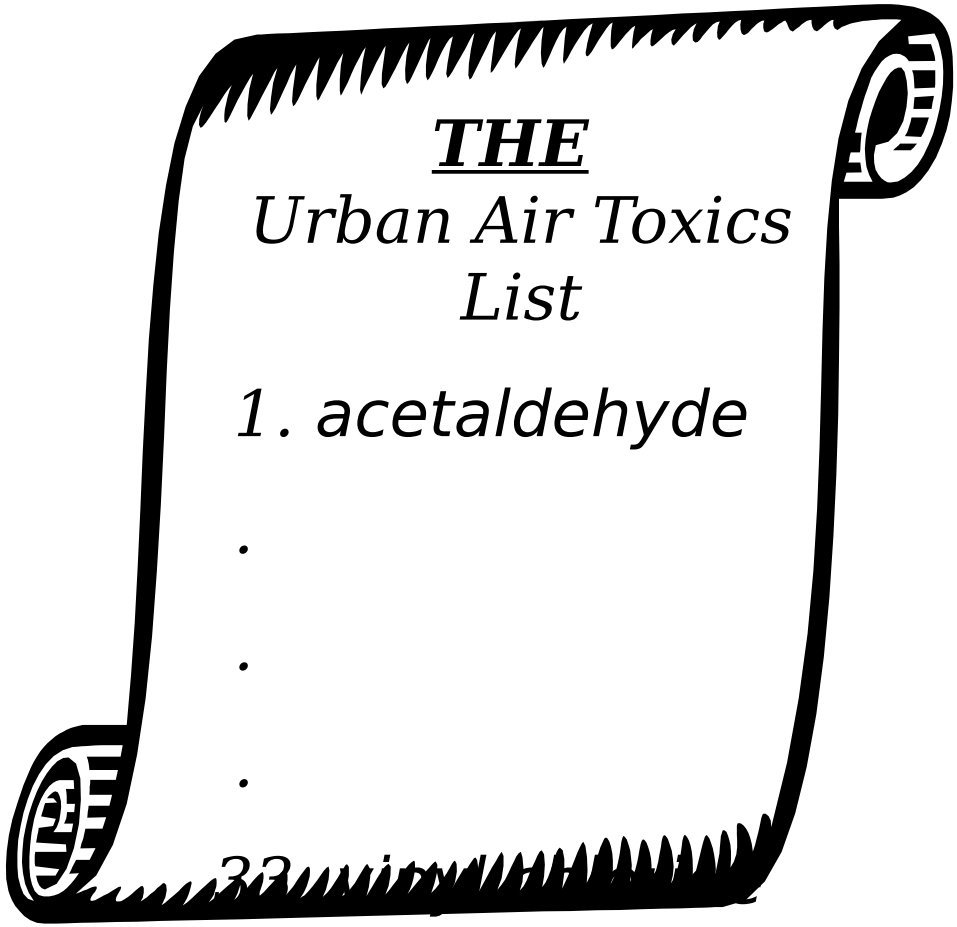
- 64 CFR 38705, 19 July 1999
  - Integrated Urban Air Toxics Strategy
  - Stationary and Mobile Source Standards
  - Improve Air Quality in Urban and Rural Areas



- Goal: 75% reduction in the incidence of cancer due to airborne contaminants and similar improvements in non-cancer health effects



Urban Air Toxics (Cont'd)



Urban Air Toxics (Cont'd)

- Standards may apply to all area sources
- Standards may apply to area sources in "urban" areas
  - "Urban" areas most likely Consolidated Metropolitan Statistical Areas
  - EPA will evaluate applicability on a case-by-case basis

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Urban Air Toxics (Cont'd)

Urban Air Toxics Implementation Plan

1. **Maximum Available Control Technology (MACT)**
   - **Major sources**
   - **Some Area sources**
   - **Hazardous waste combustors**
2. **Source category-specific Generally Available Control Technology (GACT)**
   - **All sources**
3. **Flexible GACT**
   - **Area sources**
   - **Limited geographic area**
   - **Localized public health or environmental risk**

For more information see www.epa.gov/ttn/atw/urban/urbanpg.html

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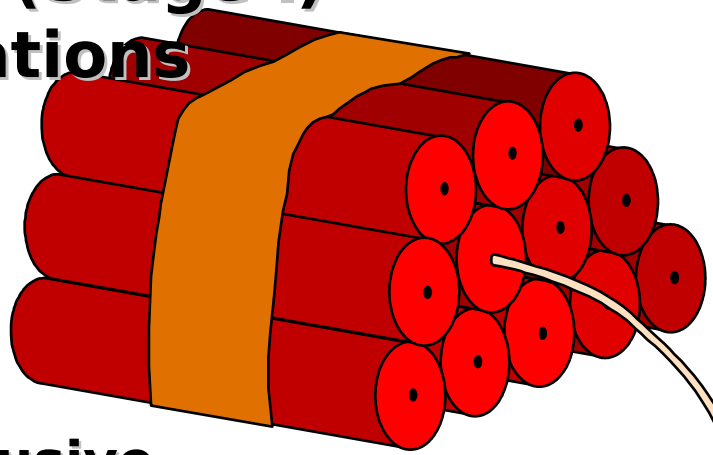
Urban Air Toxics (Cont'd)

2004 EPA Action: Promulgate Standards for Area Sources: Promulgation 2004

- Publicly (and Federally) Owned Treatment Works
- Flexible Polyurethane Foam Fabrication
- Gasoline Distribution (Stage I)
- Paint Stripping Operations
- Municipal Landfills
- Hospital Sterilizers



Note: this list is not all inclusive.

Urban Air Toxics (Cont'd)

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- **2006 EPA action: promulgate additional area source standards to meet to reduce HAP emissions by 90 %**
- **2009 EPA action: promulgate all remaining area source standards to meet the 90% reduction**
- ***2012: compliance with all standards***

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Conformity

- **Conformity required in nonattainment and maintenance areas**
- **CAA §176[c]**
- **40 CFR Part 93, Subpart B**
- **AFI 32-7040 §2.7.5**

Conformity

- **General Conformity Rule is a Prohibitory Rule**
  - **Can't Legally Take Action w/o Applicability Analysis plus either:**
  - **a *de minimis* or**
  - **Positive Conformity Determination**

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Conformity

- JOINT STRIKE FIGHTER
- KC-130J
- MV-22 Osprey
- Complete Upgrade For Cobra Attack Helicopter
- AAAV (Advanced Amphibious Assault Vehicle)
- 5 Ton Trucks, HMMWVs, TQGs (tactical quiet generators)
- TREND:
  - Replacements are More Powerful, Efficient, & Capable
  - NOx likely to Increase while HC and VOCs decrease

Conformity

- **Positive Conformity Determination – In SIP**
- Example, San Diego County, Navy and USMC
  - Future Growth Allowance in SIP
  - Comprehensive Recalculated Baseline
  - USMC & Navy annual NOx growth allowance through 2015
  - Covers 4 new or modified Aircraft, a new Assault Vehicle, and Ships (e.g., KC-130J, JSF, V-22, AH/UH-1, AAAV)
  - Provides for a miscellaneous growth wedge, as well
  - Total cumulative annual growth of 7.1%
  - Total annualized growth allowance of >4,000 tons of NOx

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Title V Permit Program

- Added in 1990
  - Required for Major Sources
    - Ranges from PTE of 10 TPY-100 TPY of NAAQS
    - 10 TPY of any one HAP or 25 TPY of all HAPS combined
    - Emissions from Controlled Burning

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Title V (Cont'd)

- **Requirements**
  - **Public Notice & Comment**
  - **Compliance Certification**
    - **Wing CC (AFI 32-7040, Paragraph 2.1.1) signs the application and compliance reports**
    - **Certification of Compliance at least once annually**
  - **Rolling 12-month emission totals**
  - **Self-policing**

Title V (Cont'd)

- **Avoiding Permit Problems**
  - **Scrub Permit Requirements**
  - **Appeal When Necessary**
  - **Include Surge Provision**
    - **Example, China Lake, NAWS**

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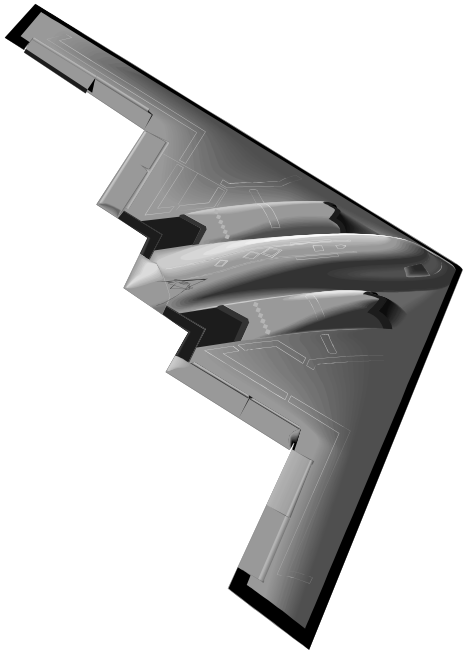
Title V (Cont'd)

- **Alternate Compliance Methods**
  - **Major Source Guidance**
  - **Synthetic Minor**
    - **Make sure base can live with limits**
  - **Registration of Emissions**



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Vehicle Inspection and Maintenance Program

- **Government Fleet Vehicles, CAA section 118(c)**
  - **Must comply with state I&M programs**
  - **Not "military tactical vehicle"**
- **POVs, CAA section 118(d)**
  - **Government employees (not contractors) must comply with state I&M programs**
  - **Not state program, DOJ Ltr 5 Aug 98**
  - **Status:**
    - **No regulations promulgated**
    - **DoD Position: maintain status quo**

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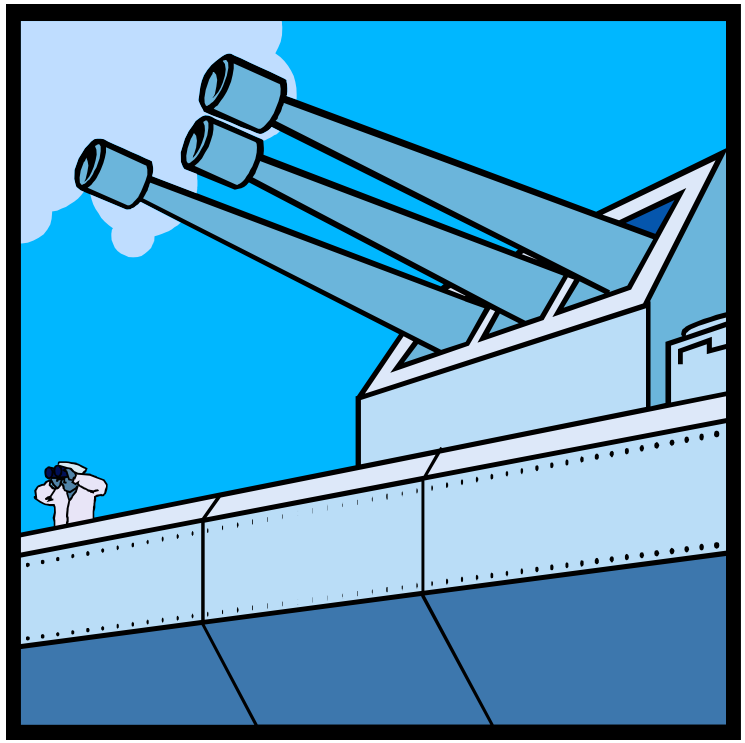
Enforcement Issues

- Congress requires Federal Facilities to comply with CAA, State Statutes & Regs
- Reporting Requirements
  - AFI 32-7047
  - AFI 51-301



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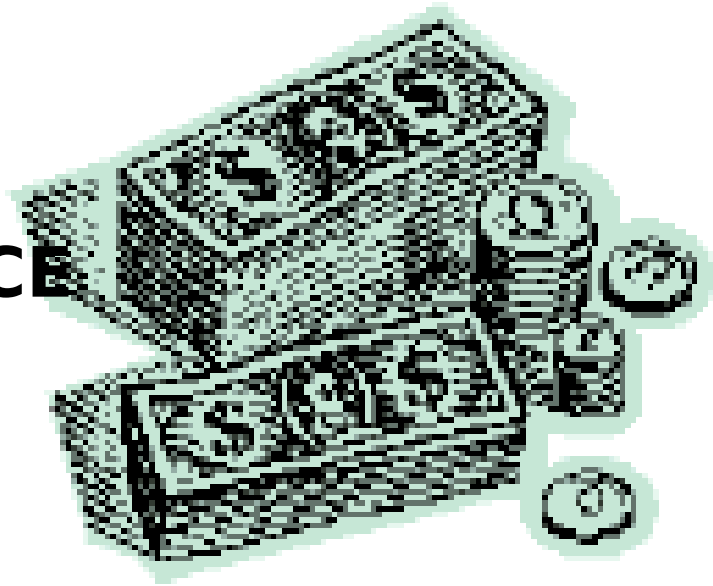
Enforcement Issues

Fines and Penalties

- AF Facilities are authorized to pay fines under CAA to EPA in all states
  - Coordinate through MAJCOM and AFLSA/JACE



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Enforcement Issues

- **State Fines - SAF/IEE Policy, 17 Jul 02**
  - **6th Circuit: Can pay**
  - **9th Circuit: May settle**
  - **11th Circuit: Don't Pay**
  - **Other Circuits: Coordinate with DOJ before entering into negotiations**
  - **All: Coordinate through MAJCOM and AFLSA/JACE**
  - **All: Must have settlement agreement, silent on sovereign immunity**

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Negotiation

Negotiation

- Do Your Homework!
- Permits
  - Conditions
  - Inclusions
- Compliance Agreements
- Regulation Interpretation

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DoD CAA Initiatives

- **Draft Legislation – FY03 Defense Auth. Act**
  - **Conformity**
    - **“Military Readiness Activities” not prohibited**
    - **Notify State of Criteria Pollutants**
    - **Cooperate to Comply with SIP within 5 years**
- **Draft Legislation FY04 – Readiness and Range Preservation Initiative**
  - **See above, but 3 years**
  - **EPA shall approve SIPs:**
    - **If non-compliance due to military readiness activities**
    - **States not bumped up due to military readiness activities**

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Summary

- CAA Compliance
  - Challenges continue
  - Essential to the mission
  - Individual is responsible